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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,827	03/22/2001	Hiroshi Hamasaki	204404US-2RD	3081
22850	7590 03/09/2006		EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			ROSE, KIESHA L	
1940 DUKE STREET ALEXANDRIA, VA 22314		ART UNIT	PAPER NUMBER	
			2822	
			DATE MAILED: 03/09/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	
	09/813,827	HAMASAKI, HIROSHI	
Office Action Summary	Examiner	Art Unit	
	Kiesha L. Rose	2822	
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address	
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be time rill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).	
Status			
Responsive to communication(s) filed on <u>15 December</u> 2a) ☐ This action is FINAL . 2b) ☐ This 3) ☐ Since this application is in condition for allowant closed in accordance with the practice under E	action is non-final. nce except for formal matters, pro	•	
Disposition of Claims			
4) Claim(s) 1,4-7,9-12,15-18 and 20-22 is/are penda) Of the above claim(s) is/are withdraw 5) Claim(s) is/are allowed. 6) Claim(s) 1,4-7,9-12,15-18 and 20-22 is/are rejet 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or Application Papers	vn from consideration. ected. election requirement.	:	
 9) The specification is objected to by the Examiner 10) The drawing(s) filed on is/are: a) access Applicant may not request that any objection to the objected to examine the correction of the co	epted or b) objected to by the bedrawing(s) be held in abeyance. See ion is required if the drawing(s) is obj	e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d);	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the prior application from the International Bureau * See the attached detailed Office action for a list of	s have been received. s have been received in Applicati ity documents have been receive (PCT Rule 17.2(a)).	on No ed in this National Stage	
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:		

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DETAILED ACTION

This Office Action is in response to the amendment filed 15 December 2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1,4-7,9-12,15-18 and 20-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1,4-7,9-12,15-18 and 20-22 disclose a sum of areas of said surface portions of said semiconductor layer receiving incident light being larger than a sum of areas of said plurality of first semiconductor regions and said second semiconductor region. This limitation is considered new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,4-7,9-12,15-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Fig. 7) in view of Yano (U.S. Patent 6,118,165).

Applicant's Prior Art discloses a light-receiving device (Fig. 7) that contains a ptype semiconductor substrate (81) having a first surface on a light receiving side and a second surface on the opposite side to said first surface, a semiconductor layer (74) formed on the first surface of the substrate and having a plurality of opening, a plurality of island formed p-type first semiconductor regions (76) (protruding portion) formed in the semiconductor layer so as to reach substrate from a surface of the semiconductor layer, where the plurality of first semiconductor regions being formed apart from each other, a p-type lattice formed second semiconductor region (72) selectively formed in a surface region of semiconductor layer with a higher resistance and surrounding each of the semiconductor regions with a surface portion of the semiconductor layer therebetween and a lattice formed first electrode (83) formed on second semiconductor region. Applicant's Prior Art (Fig. 7) discloses all the limitations except for a second electrode formed on the second side. Whereas Yano discloses a light-receiving device (Fig. 4) that contains a photodiode with a substrate (11) with a first side and a second side, an electrode (16a) formed on the second side and an electrode (15) formed on the first side. The electrode is formed on the second side of the photodiode to supply current to the device or keep it at ground level. (Abstract) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the photodiode by incorporating a second electrode on the second side of the

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substrate to supply current to the device as taught by Yano. In regards to claims 6,11,17 and 22 dealing with a bias, since the devices of the prior art disclose the same structural limitations as the claimed invention that it would have been obvious to one having ordinary skill in the art at the time the invention was made to reverse bias the device which would deplete the regions, in addition it is well known in the art that a voltage will be applied to a device which has an electrode on the top and bottom surface to supply current to the device.

Response to Arguments

Applicant's arguments with respect to claims 1,4-7,9-12,15-18 and 20-22 have been considered but are most in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zandra V. Smith

Supervisory Patent Examiner

3 mar. 2006